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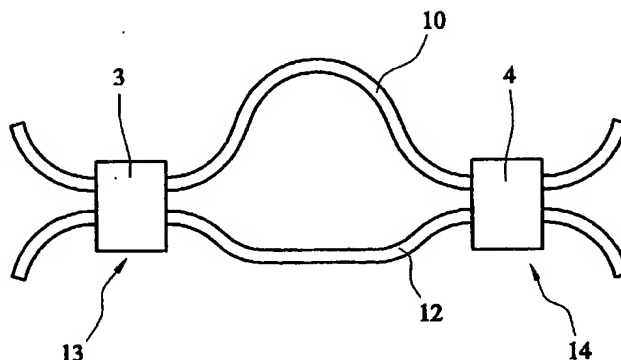
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(54) Title: **OPTICAL BRANCHING COMPONENT WITH LOW POLARISATION SENSITIVITY AND INCREASED PROCESS TOLERANCE**



(57) Abstract: An optical branching component particularly suitable for use as a tap device is described. The component has two optical waveguides coupled between two optical couplers which each include at least one MMI supporting at least two guided modes. There is an effective optical path length difference between the two waveguides and the coupling strength of at least one of the couplers monotonically decreases with increasing wavelength in the operational wavelength region of the component. This means a coupler with relatively large coupling strength and relatively low polarisation dependency can be used in the component, giving low polarisation dependent variation in the tap ratio, particularly for small tap ratios. Moreover, the use of MMIs in the couplers avoids the need to fabricate to a high process tolerance very small gaps between two waveguides, as can be the case with directional couplers used in prior art branching component designs.

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